VPDES PERMIT FACT SHEET

This document gives pertinent information concerning the reissuance of the VPDES permit listed below. This permit is being processed as a Minor, Municipal permit. The effluent limitations contained in this permit will maintain the Water Quality Standards (WQS) of 9 VAC 25-260. The discharge results from the operation of a sewage treatment plant (SIC Code: 4952 - Sewerage Systems) serving the Page County High School and Middle School. This permit action consists of reissuing the permit with revisions to the permit, as needed, due to changes in applicable laws, guidance, and available technical information.

1. Facility Name and Address:
   Page County High School & Middle School STP
   735 West Main Street
   Luray, VA 22835
   Location: 198 Panther Drive, Shenandoah, VA 22849

2. Permit No. VA0021318; Expiration Date: June 30, 2012

3. Owner: Page County School Board
   Contact Name: Richard L. Thompson
   Title: Director of Support Services
   Telephone No: 540.743.6533

4. Description of Treatment Works Treating Domestic Sewage: The treatment facility receives sewage wastewater generated by the high school and the middle school. The treatment units are shown in the schematic included in the permit reissuance application.

   Total Number of Outfalls: 1
   Average Discharge Flow: 0.0052 MGD (Dec 09 – Nov 11)
   Design Average Flow: 0.0096 MGD

5. Application Complete Date: December 28, 2011

   Permit Writer: Dawn Jeffries Date: 1/18/12
   Reviewed By: Bev Carver Date: 1/27/12

   Public Comment Period: _____ to _____

6. Receiving Stream Name: Foltz Creek, UT
   River Mile: 0.4
   Use Impairment: No
   Special Standards: pH
   Tidal Waters: No
   Watershed Name: VAV – B37R South Fork Shenandoah River/Cub Run
   Basin: Potomac; Subbasin: Shenandoah
   Section: 2; Class: IV

7. Operator License Requirements per 9 VAC 25-31-200.C: None

8. Reliability Class per 9 VAC 25-790: Class II (assigned May 14, 1982)

9. Permit Characterization:
   ☐ Private ☐ Federal ☐ State ☑ POTW ☐ PVOTW
   ☐ Possible Interstate Effect ☐ Interim Limits in Other Document (attach copy of CSO)

10. Discharge Location Description and Receiving Waters Information: Appendix A

11. Antidegradation (AD) Review & Comments per 9 VAC 25-260-30:
Tier Designation: Foltz Creek, UT: Tier 1

    The State Water Control Board's WQS include an AD policy. All state surface waters are provided one of three levels of AD protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 waters have water quality that is better than the WQS. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 waters are exceptional waters and are so designated by regulatory amendment. The AD policy prohibits new or expanded discharges into exceptional waters.

    The antidegradation review begins with a Tier determination. The Page County High School & Middle School STP discharges to Foltz Creek, UT, which is classified as Tier 1. This finding is based on the fact that the receiving stream is a dry ditch. Antidegradation baselines are not calculated for Tier 1 waters.

12. Site Inspection: Performed by Dawn Jeffries on January 6, 2012

13. Effluent Screening and Effluent Limitations: Appendix B

14. Effluent toxicity testing requirements included per 9 VAC 25-31-220.D: ☐ Yes ☑ No

    If "No," check one:
    - ☑ Municipal: This facility does not have a design flow $\geq$ 1.0 MGD, has no Significant Industrial Users (SIUs) or Categorical Industrial Users (CIUs), and is not deemed to have the potential to cause or contribute to instream toxicity.
    - ☐ Industrial: This facility's SIC Code(s) and activities contributing wastewater do not fall within the categories for which aquatic toxicity monitoring is required, the facility does not have an IWC = 33%, and the discharge is not deemed to have the potential to cause or contribute to instream toxicity.

15. Sewage sludge utilization and disposal: The SMP submitted with the application is approved upon reissuance of the permit. Sludge is hauled to the Luray STP (VPDES Permit No. VA0062642) for further treatment and disposal.

16. Bases for Special Conditions: Appendix C

17. Material Storage per 9 VAC 25-31-280.B.2: This permit requires that the facility's O&M Manual include information to address the management of wastes, fluids, and pollutants which may be present at the facility, to avoid unauthorized discharge of such materials.

18. Antibacksliding Review per 9 VAC 25-31-220.L: This permit complies with the antibacksliding provisions of the VPDES Permit Regulation.

19. Impaired Use Status Evaluation per 9 VAC 25-31-220.D: The receiving stream is not identified as impaired in the currently approved 303(d) TMDL List of Impaired Waters. However, the facility does have a WLA for bacteria based on a downstream TMDL.

20. Regulation of Users per 9 VAC 25-31-280.B.9: N/A – There are no industrial users contributing to the treatment facility.

21. Storm Water Management per 9 VAC 25-31-120: Application Required? ☐Yes ☑No

22. Compliance Schedule per 9 VAC 25-31-250: There is no compliance schedule included in the reissued permit.

23. Variances/Alternative Limits or Conditions per 9 VAC 25-31-280.B, 100.J, 100.P, and 100.M: None.

24. Financial Assurance Applicability per 9 VAC 25: N/A – This facility does not serve private residences.

25. Virginia Environmental Excellence Program (VEEP) Evaluation per § 10.1-1187.1-7: At the time of this reissuance, is this facility considered by DEQ to be a participant in the Virginia Environmental Excellence Program in good standing at either the Exemplary Environmental Enterprise (E3) level or the Extraordinary Environmental Enterprise (E4) level? ☐ Yes ☑ No

26. Nutrient Trading Regulation per 9 VAC 25-820: See Appendix B
General Permit Required: ☐ Yes ☑ No

27. Threatened and Endangered (T&E) Species Screening per 9 VAC 25-260-20 B.8: Because this is not an issuance or reissuance that allows increased discharge flows, T&E screening is not automatically required. However, in accordance with the VPDES Memorandum of Understanding, T&E screening was coordinated on December 29, 2011 through DCR based upon request. Comments were received from DCR on January 24, 2011 and are included in the permit processing file. Comments were considered in the drafting of the permit and were also forwarded to the permittee.

28. Public Notice Information per 9 VAC 25-31-280.B: All pertinent information is on file, and may be inspected and copied by contacting Dawn Jeffries at: DEQ-Valley Regional Office, P.O. Box 3000, Harrisonburg, Virginia 22801, Telephone No. (540) 574-7898, dawn.jeffries@deq.virginia.gov.

    Persons may comment in writing or by email to the DEQ on the proposed permit action, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing if public response is significant. Requests for public hearings shall state the reason why a hearing is requested, the nature of the issues proposed to be raised in the public hearing and a brief explanation of how the requester's interests would be directly and adversely affected by the proposed permit action. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given.

29. Historical Record:
    - A VPDES permit application for a 0.0096 MGD facility was received prior to March 25, 1974; the facility has not increased their design flow since that date.
    - A CTO for the dechlorination system was issued on November 1, 1988.
    - A CTO issued for the package aeration plant was issued on July 23, 2001.
    - A Closure Plan for the rotary sand filter was approved October 25, 2001.
    - A CTO for the UV retrofit was issued on December 3, 2009.

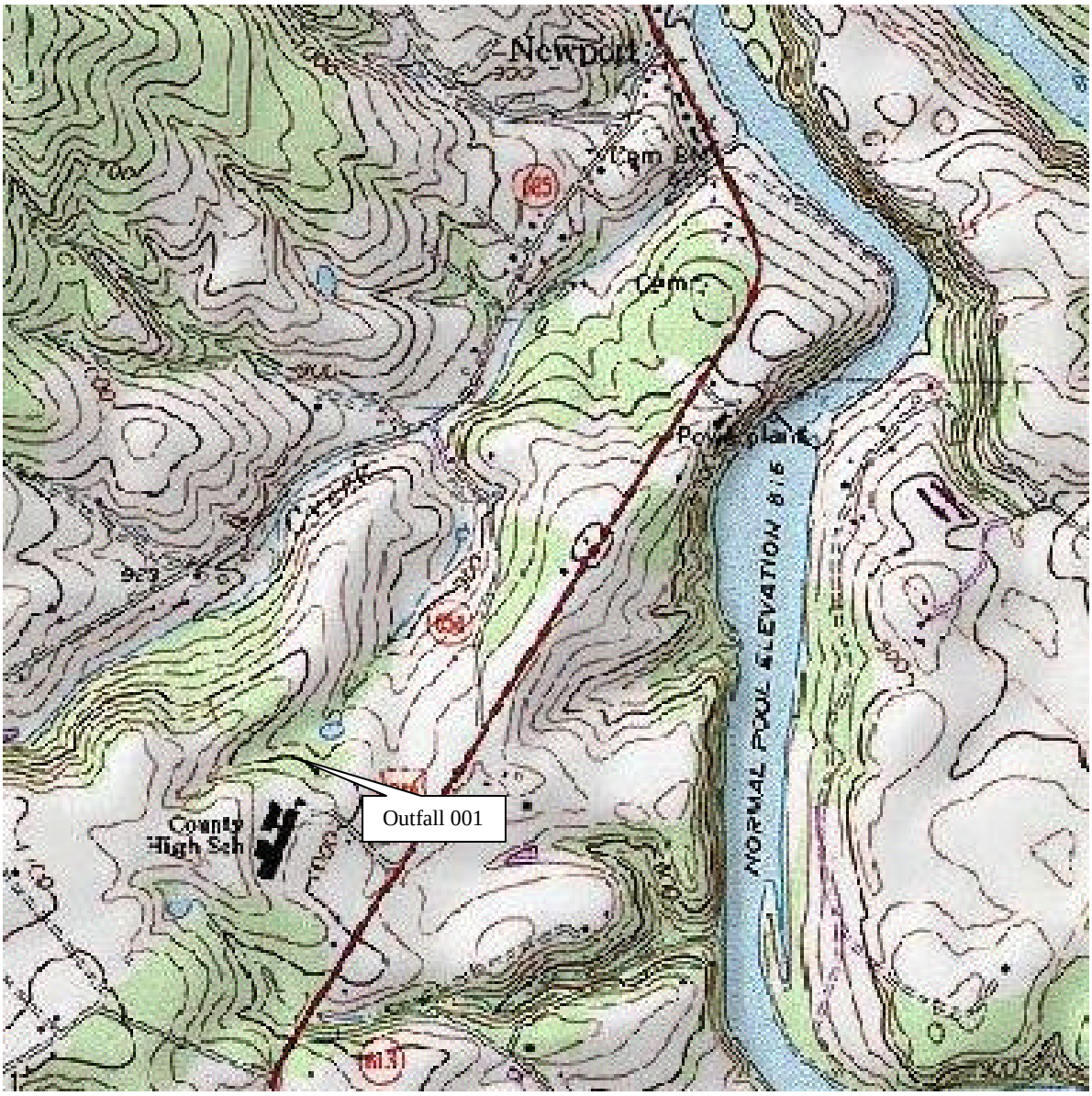
APPENDIX A

DISCHARGE LOCATION AND RECEIVING WATERS INFORMATION

Page County High School STP discharges to Foltz Creek, U.T. The discharge is located about 0.4 miles above the confluence with Foltz Creek. Before reaching the confluence with Foltz Creek, the discharge enters an impoundment (a less than one acre farm pond) approximately 700 feet below Outfall 001. The location of Outfall 001 is shown on the topographical map below.

Relevant points of interest within the watershed of Foltz Creek and in the vicinity of the subject discharge are shown on the Water Quality Assessments TMDL Review for the Potomac-Shenandoah River Basin and the corresponding map found in this appendix.

A Flow Frequency Determination for Foltz Creek, U.T. was provided by memo dated November 18, 2011, and is presented in this appendix. Since the receiving stream is a dry ditch a complete mix is applied.



WATER QUALITY ASSESSMENTS REVIEW
POTOMAC-SHENANDOAH RIVER BASIN
12/28/2011

IMPAIRED SEGMENTS

SEGMENT ID	STREAM	SEGMENT START	SEGMENT END	SEGMENT LENGTH	PARAMETER
B32R-02-HG	South River/NF Shenando	163.27	8.16	155.11	Mercury in Fish Tissue
B33R-01-BAC	South Fork Shenandoah F	100.97	41.98	58.99	Fecal Coliform
B33R-01-BEN	South Fork Shenandoah F	100.97	41.98	58.99	Benthic
B37R-01-PCB	South Fork Shenandoah F	75.34	57.07	18.27	PCB in Fish Tissue
B37R-02-BAC	Line Run	3.9	0	3.9	E-coli
B37R-03-BAC	Honey Run	4.53	0	4.53	E-coli
B38R-01-BAC	Mill Creek	6.74	0	6.74	Fecal Coliform
B39R-02-BAC	Hawksbill Creek	19.23	0	19.23	E-coli

PERMITS

PERMIT	FACILITY	STREAM	RIVER MILE	LAT	LONG	WBID
VA0021318	**Page County High Scho**	**Foltz Creek X Trib**	**0.4**	**383355**	**783629**	**VAV-B37R**
VA0001961	Alma Plant	S.F. Shenandoah River	60.01	383524	783358	VAV-B37R
VA0064394	Stanley STP	S.F. Shenandoah River	60.61	383517	783357	VAV-B37R
VA0081001	Grove Hill Elementary Sch	S.F. Shenandoah River	69.85	383202	783641	VAV-B37R
VA0087661	Hawksbill Recreation Park	Little Hawksbill Creek	0.6	383410	782810	VAV-B39R
VA0092347	Big Meadows-Lewis Sprin	Hawksbill Creek	18.37	383123	782731	VAV-B39R

MONITORING STATIONS

STREAM	NAME	RIVER MILE	RECORD	LAT	LONG
Honey Run	1BHDY000.91	0.91	8/26/04	383417	783315
Line Run	1BLIN001.60	1.6	8/26/04	383335	783204
S.F. Shenandoah Riv	1BSSF060.57	60.57	7/2001	383520	-783357
S.F. Shenandoah Riv	1BSSF068.83	68.83	5/20/05	383140	783541
Cub Run	1BCUB000.40	0.4	07/01/91	383315	783555
S.F. Shenandoah Riv	1BSSF066.98	66.98	10/13/10	383234	783502

PUBLIC WATER SUPPLY INTAKES

OWNER	STREAM	RIVER MILE
None		

WATER QUALITY MANAGEMENT PLANNING REGULATION

Is this discharge addressed in the WQMP regulation? **No**

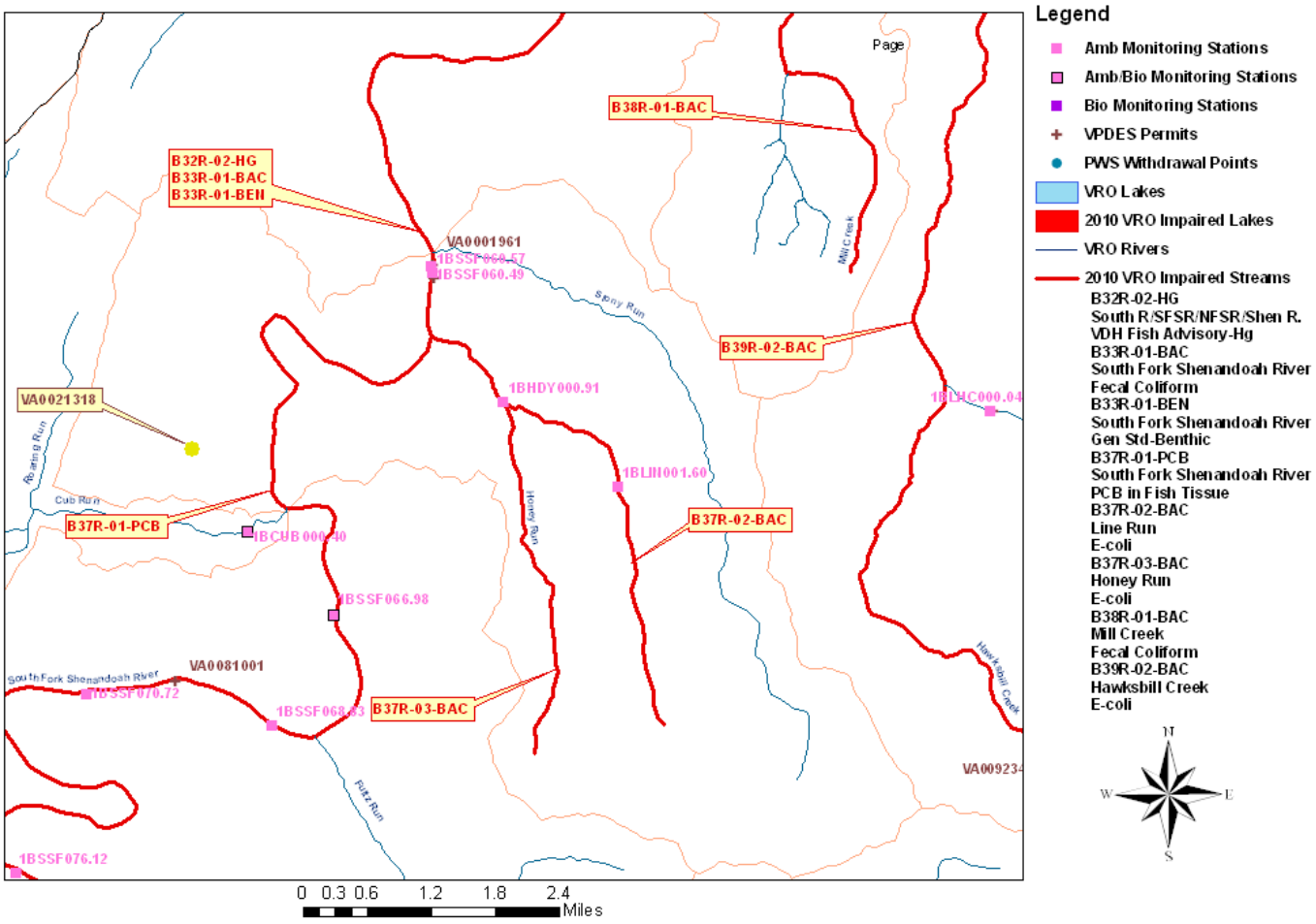
If Yes, what effluent limitations or restrictions does the WQMP regulation impose on this discharge?

PARAMETER	ALLOCATION

WATERSHED NAME

VAV-B37R South Fork Shenandoah River/Cub Run

Page County High/Middle School - Water Quality Assessments Review
December 28, 2011



MEMORANDUM
DEPARTMENT OF ENVIRONMENTAL QUALITY
VALLEY REGIONAL OFFICE

4411 Early Road – P.O. Box 3000 Harrisonburg, VA 22801

SUBJECT: Flow Frequency Determination
Page County High School STP – VPDES Permit No. VA0021318, Page County

TO: Permit Processing File

FROM: Dawn Jeffries

DATE: November 18, 2011

This memo supersedes Keith Showman's flow frequency determination dated October 18, 2006.

The Page County High school STP discharges to an unnamed tributary of Foltz Creek near Newport, VA. Stream flow frequencies are required at this site for use by the permit writer in developing effluent limitations for the VPDES permit reissuance.

At the discharge point, the receiving stream is shown to be a dry ditch on the USGS Stanley Quadrangle topographic map. The flow frequencies for dry ditches are considered to be 0.0 cfs for all critical flow parameters.

REVIEWER: KAS
DATE: 1/19/12

MEMORANDUM
DEPARTMENT OF ENVIRONMENTAL QUALITY
VALLEY REGIONAL OFFICE

4411 Early Road – P.O. Box 3000 Harrisonburg, VA 22801

SUBJECT: Site Visit for Reissuance of VPDES Permit No. VA0021318, Page County High School & Middle School Page County

TO: Permit Processing File

FROM: Dawn Jeffries

DATE: January 6, 2012

On January 6, 2012 the writer performed a site visit at the subject facility. Bob Haggard and Wade Broy were also present. The site visit included a visual inspection of the outfall and downstream to the farm pond.

Outfall 001

Downstream farm pond

Upstream view from pond

APPENDIX B

EFFLUENT SCREENING AND EFFLUENT LIMITATIONS

EFFLUENT LIMITATIONS

A comparison of technology and water quality-based limits was performed and the most stringent limits were selected, as summarized in the table below.

Outfall 001 **Final Limits** **Design Flow: 0.0096 MGD**

PARAMETER	BASIS FOR LIMITS	EFFLUENT LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Avg.		Maximum		Frequency	Sample Type
Flow (MGD)	1	NL		NL		1/Day	Estimate
---	---	Monthly Avg.		Weekly Avg.		---	---
BOD_5	2,3	8 mg/L	0.3 kg/d	12 mg/L	0.44 kg/d	1/Month	Grab
TSS	4	19 mg/L	0.69 kg/d	28 mg/L	1.0 kg/d	1/Month	Grab
Ammonia-N (mg/L)	2	3.8		3.8		1/Month	Grab
Effluent Chlorine (TRC)(mg/L)*	2	0.0080		0.0098		1/Day	Grab
E. coli (N/100 mL) (geometric mean)	2,5	126		NA		1/Week 10 am to 4 pm	Grab
---	---	Minimum		Maximum		---	---
pH (S.U.)	2	6.5		9.5		1/Day	Grab
Dissolved Oxygen (mg/L)	2,3	5.5		NA		1/Day	Grab
Contact Chlorine (TRC)(mg/L)*	2,4	1.0		NA		1/Day	Grab

NL = No Limitation, monitoring required
NA = Not Applicable
** = Applicable only if chlorination is used for disinfection.*

BASIS DESCRIPTIONS

1. *VPDES Permit Regulation (9 VAC 25-31)*
2. *Water Quality Standards (9 VAC 25-260)*
3. *Regional Stream Model*
4. *Best Professional Judgment (BPJ)*
5. *South Fork Shenandoah River Bacteria TMDL, Dec '09*

LIMITING FACTORS – OVERVIEW:
The following potential limiting factors have been considered in developing this permit and fact sheet:

Water Quality Management Plan Regulation (WQMP) (9 VAC 25-720)	
A. TMDL limits	**E. coli**
B. Non-TMDL WLAs	**None**
C. CBP (TN & TP) WLAs	**None**
Federal Effluent Guidelines	**BOD_5, TSS, pH**
BPJ/Agency Guidance limits	**TRC (contact), TSS, BOD_5**
Water Quality-based Limits - numeric	**TRC (effluent), E. coli, pH, DO, Ammonia-N**
Water Quality-based Limits - narrative	**None**
Technology-based Limits (9 VAC 25-40-70)	**None**
Whole Effluent Toxicity (WET)	**Not required**
Storm Water Limits	**Not applicable**

EVALUATION OF THE EFFLUENT – CONVENTIONAL POLLUTANTS:
As was done at the previous reissuance, the Regional Water Quality Model was not used to determine BOD_5 limits for this discharge because the model is intended for use with free flowing streams and not for streams that are impounded below the discharge. Instead, BOD_5 limits were determined using a complete mix mass balance equation. This calculation is based on the assumption that if waters within the impoundment are protected, downstream waters will also be protected. The equation assumes 100% of the effluent will reach the pond at design flow and critical flow conditions. It also assumes that water quality standards for DO in the pond will not be violated if the mix BOD (ultimate) does not exceed 10 mg/L. It is further assumed that one half of the effluent BOD_u will be offset by pond surface reaeration.

The pond BOD_u (Mix) concentration is as follows:

$$BOD_u\,(Mix) = \frac{(Q_s)(C_s) + (Q_d)(C_d)}{(Q_s + Q_d)} = 10\ mg/L$$

Where: Q_s = Stream Flow
C_s = Stream BOD_u Concentration
Q_d = Effluent Design Flow
C_d = Effluent BOD_u Concentration

Because Q_s and C_s = 0, the equation simplifies to:

$$BOD_u\,(Mix) = \frac{(Q_d)(C_d)}{Q_d} = 10\ mg/L$$

The result indicates that the concentration of the effluent BOD_u must be 10 mg/L to be protective of WQS in the pond, but half of the effluent BOD_u will be offset by pond surface reaeration, so:

BOD_u (discharge) = C_d * 2 = 10 mg/L *2 = 20 mg/L

Because $BOD_5 = BOD_u / 2.5$

BOD_5 (discharge) = 20 mg/L / 2.5

BOD_5 (discharge) = 8 mg/L

As in previous permits, DO was evaluated by using the Regional Stream Model from the Outfall 001 to the point that Foltz Creek, UT enters the impoundment. Since a BOD_5 of 8 mg/L was shown to protect the WQS in the pond, it was used in the model to verify that WQS are also protected in the UT between the discharge and the pond. The values below were demonstrated to maintain the DO standard of 5.0 mg/L in the stream. The modeling information is maintained in the DEQ-VRO receiving steam DO model files.

$cBOD_5$ = 8 mg/L
TKN = 5.0 mg/L
DO = 5.5 mg/L

Since a BOD_5 limit of 8 mg/L is more stringent than a $cBOD_5$ limit of 8 mg/L, the existing BOD_5 limit of 8 mg/L has been carried forward from the previous permit.

No TKN limits are included in the permit. Since the TKN modeled is greater than twice the Ammonia-N WLA_c of 1.9 mg/L, no TKN limits are needed because the Ammonia-N limits imposed in this permit will control TKN.

The TSS limits are more stringent than Secondary Treatment Regulation and have been carried forward from the previous permit.

The pH limits reflect the current WQS for pH in the receiving stream and have been carried forward from the previous permit.

EVALUATION OF THE EFFLUENT – DISINFECTION:
The E. coli limits have been carried forward from the previous permit. These limits reflect the current WQS for E. coli in the receiving stream and comply with the TMDL WLA of 1.68×10^{10} cfu/yr which is based on the design flow of 0.0096 MGD and a concentration of 126 cfu/100 mL. The E. coli limits are applicable regardless of the disinfection method utilized. TRC limits are also specified in the permit, but are only applicable if the facility utilizes chlorine disinfection.

EVALUATION OF THE EFFLUENT – NUTRIENTS:
N/A. Facility to discharge < 40,000 gallons per day.

EVALUATION OF THE EFFLUENT – TOXICS:

Discharge: The pH and temperature values were obtained from the monthly data submitted by the permittee. The hardness value was carried forward from the previous fact sheet. Since Ammonia-N limits were applied as annual limits, wet season temperatures were not needed.

Effluent Information			
90% Annual Temp (°C) =	24.5	90% pH (SU) =	7.7
Mean Hardness (mg/L) =	298	10% pH (SU) =	6.9

Stream: The receiving stream is a dry ditch from the discharge point to the confluence with the downstream impoundment; therefore, water quality data for the discharge were also entered for the stream.

All toxic pollutants, including Ammonia-N and TRC, are assumed absent in the receiving stream because there are no data for these parameters directly above the discharge.

WQC and WLAs were calculated for the WQS parameters for which data are available. The resulting WQC and WLAs are presented in this appendix. Current agency guidelines recommends the evaluation of toxic pollutant limits for TRC and Ammonia-N be based on default effluent concentrations of 20 mg/L and 9 mg/L, respectively. The effluent data were analyzed per the protocol for evaluation of effluent toxic pollutants included in this appendix with the following results:

- TRC: Limits identical to existing limits were determined to be necessary and are carried forward.
- Ammonia-N: Less stringent limits were determined to be necessary due to new effluent information for temperature and pH. Because new pH and temperature information was available that resulted in less stringent limits, the less stringent limits meet antibacksliding requirements.

WQC-WLA SPREADSHEET INPUT

WATER QUALITY CRITERIA / WASTE LOAD ALLOCATION ANALYSIS

Facility Name: Page County High School and Middle School
Receiving Stream: Foltz Creek, UT
Permit No.: VA0021318
Date: 1/5/2012
Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information			Stream Flows			Mixing Information			Effluent Information		
Mean Hardness (as CaCO3) =	298	mg/L	1Q10 (Annual) =	0	MGD	Annual	- 1Q10 Flow =	100 %	Mean Hardness (as CaCO3) =	298	mg/L
90% Temperature (Annual) =	24.5	deg C	7Q10 (Annual) =	0	MGD		- 7Q10 Flow =	100 %	90% Temp (Annual) =	24.5	deg C
90% Temperature (Wet season) =		deg C	30Q10 (Annual) =	0	MGD		- 30Q10 Flow =	100 %	90% Temp (Wet season) =		deg C
90% Maximum pH =	7.7	SU	1Q10 (Wet season) =	0	MGD	Wet Season	- 1Q10 Flow =	100 %	90% Maximum pH =	7.7	SU
10% Maximum pH =	6.9	SU	30Q10 (Wet season) =	0	MGD		- 30Q10 Flow =	100 %	10% Maximum pH =	6.9	SU
Tier Designation =	1		30Q5 =	0	MGD				Current Discharge Flow =	0.0096	MGD
Public Water Supply (PWS) Y/N? =	N		Harmonic Mean =	0	MGD				Discharge Flow for Limit Analysis =	0.0096	MGD
V(alley) or P(iedmont)? =	V										
Trout Present Y/N? =	N										
Early Life Stages Present Y/N? =	Y										

Footnotes:

1. All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise.
2. All flow values are expressed as Million Gallons per Day (MGD).
3. Discharge volumes are highest monthly average or 2C maximum for Industries and design flows for Municipals.
4. Hardness expressed as mg/l CaCO3. Standards calculated using Hardness values in the range of 25-400 mg/l CaCO3.
5. "Public Water Supply" protects for fish & water consumption. "Other Surface Waters" protects for fish consumption only.
6. Carcinogen "Y" indicates carcinogenic parameter.
7. Ammonia WQSs selected from separate tables, based on pH and temperature.
8. Metals measured as Dissolved, unless specified otherwise.
9. WLA = Waste Load Allocation (based on standards).
10. WLA = Waste Load Allocation (based on standards)
11. WLAs are based on mass balances (less background, if data exist)
12. Acute - 1 hour avg. concentration not to be exceeded more than 1/3 years.
13. Chronic - 4 day avg. concentration (30 day avg. for Ammonia) not to be exceeded more than 1/3 years.
14. Mass balances employ 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens, and Harmonic Mean for Carcinogens. Actual flows employed are a function of the mixing analysis and may be less than the actual flows.
15. Effluent Limitations are calculated elsewhere using the minimum WLA and EPA's statistical approach (Technical Support Document).

WQC-WLA SPREADSHEET OUTPUT

Facility Name: Page County High School and Middle School
Permit No.: VA0021318
Receiving Stream: Foltz Creek, UT
Date: 1/5/2012

WATER QUALITY CRITERIA
0.010 MGD Discharge Flow - Mix per "Mixer"

NON-ANTIDEGRADATION WASTE LOAD ALLOCATIONS
0.010 MGD Discharge - Mix per "Mixer"

Toxic Parameter and Form	Carcinogen?	Aquatic Protection Acute	Aquatic Protection Chronic	Human Health Public Water Supplies	Human Health Other Surface Waters	Aquatic Protection Acute	Aquatic Protection Chronic	Human Health
Ammonia-N (Annual)	N	1.4E+01 mg/L	1.9E+00 mg/L	None	None	1.4E+01 mg/L	1.9E+00 mg/L	N/A
Chlorine, Total Residua	N	1.9E-02 mg/L	1.1E-02 mg/L	None	None	1.9E-02 mg/L	1.1E-02 mg/L	N/A

PROTOCOL FOR THE EVALUATION OF THE EFFLUENT – TOXIC POLLUTANTS

Toxic pollutants were evaluated in accordance with OWP Guidance Memo No. 00-2011. According to this guidance, STPs with a design flow = 0.040 MGD are treated as if there are no toxic pollutants in their discharge unless there is actual evidence to indicate otherwise. This applies to all toxic pollutants with the exception of Ammonia and Total Residual Chlorine, which are evaluated in every STP discharge. Also, these smaller STPs are not required to monitor for any toxic pollutants unless there is reason to believe that such pollutants may be present.

Acute and Chronic WLAs (WLA_a and WLA_c) were analyzed according to the protocol below using a statistical approach (STAT.exe) to determine the necessity and magnitude of limits. Human Health WLAs (WLA_{hh}) were analyzed according to the same protocol through a simple comparison with the effluent data. If the WLA_{hh} exceeded the effluent datum or data mean, no limits were required. If the effluent datum or data mean exceeded the WLA_{hh}, the WLA_{hh} was imposed as the limit.

Since there are no data available for any toxic pollutants immediately upstream of this discharge, all upstream background pollutant concentrations are assumed to be "0".

The steps used in evaluating available effluent data from STPs with design flows = 0.040 MGD are as follows:

A. If all data are reported as "below detection" or < the required Quantification Level (QL) (or, for metals, in a form other than "dissolved"), then the data are not suitable for analysis and no further monitoring is required.

B. If any data value is reported as detectable at or above the required QL, then the data are adequate to determine whether effluent limits are needed.

B.1. If the evaluation indicates that no limits are needed, then no further monitoring is required.

B.2. If the evaluation indicates that limits are needed, then the limits and associated requirements are specified in the draft permit.

Parameter	CASRN	Type	QL (µg/L)	Data (µg/L unless noted otherwise)	Source of Data	Data Eval
Ammonia-N (mg/L) (Annual)	766-41-7	X	0.2 mg/L	9 mg/L	a	B.2
TRC (mg/L)	7782-50-5	X	0.1 mg/L	20 mg/L	a	B.2

"Type" column indicates a category (see below) assigned to the referenced substance.

X = Miscellaneous Compounds and Parameters

“Source of Data” codes:
a = default effluent concentration

"Data Evaluation" codes:
See section titled PROTOCOL FOR THE EVALUATION OF EFFLUENT TOXIC POLLUTANTS for an explanation of the code used.

STAT.EXE RESULTS:

Ammonia-N	**TRC**
Chemical = Ammonia-N Chronic averaging period = 30 WLAa = 14 WLAc = 1.9 Q.L. = 0.2 # samples/mo. = 1 # samples/wk. = 1 Summary of Statistics: # observations = 1 Expected Value = 9 Variance = 29.16 C.V. = 0.6 97th percentile daily values = 21.9007 97th percentile 4 day average = 14.9741 97th percentile 30 day average= 10.8544 # < Q.L. = 0 Model used = BPJ Assumptions, type 2 data A limit is needed based on Chronic Toxicity Maximum Daily Limit = 3.83357317749099 Average Weekly Limit = 3.83357317749099 Average Monthly Limit = 3.83357317749099 The data are: 9	Chemical = TRC Chronic averaging period = 4 WLAa = 0.019 WLAc = 0.011 Q.L. = 0.1 # samples/mo. = 30 # samples/wk. = 7 Summary of Statistics: # observations = 1 Expected Value = 20 Variance = 144 C.V. = 0.6 97th percentile daily values = 48.6683 97th percentile 4 day average = 33.2758 97th percentile 30 day average= 24.1210 # < Q.L. = 0 Model used = BPJ Assumptions, type 2 data A limit is needed based on Chronic Toxicity Maximum Daily Limit = 1.60883226245855E-02 Average Weekly Limit = 9.8252545713861E-03 Average Monthly Limit = 7.9737131838758E-03 The data are: 20

APPENDIX C

BASES FOR PERMIT SPECIAL CONDITIONS

Tabulated below are the sections of the permit, with any changes and the reasons for the changes identified. Also provided is the basis for each of the permit special conditions.

Cover Page
- Content and format as prescribed by the VPDES Permit Manual.

Part I.A.1. **Effluent Limitations and Monitoring Requirements:** Bases for effluent limits provided in previous pages of this fact sheet. Monitoring requirements as prescribed by the VPDES Permit Manual.

Updates Part I.A.1. of the previous permit with the following:
- Less stringent Ammonia-N limits were included.
- TRC monitoring requirements and limits were removed.
- E. coli monitoring requirements, limits, and the associated footnote were added.

Part I.B. **TRC Limitations and Monitoring Requirements**: *Updates Part I.B. of the previous permit.* Required by Sewage Collection and Treatment (SCAT) Regulations and 9 VAC 25-260-170, Bacteria; other waters. Also, 40 CFR 122.41(e) requires the permittee, at all times, to properly operate and maintain all facilities and systems of treatment in order to comply with the permit. This ensures proper operation of chlorination equipment to maintain adequate disinfection.

Part I.C. **Effluent Limitations and Monitoring Requirements – Additional Instructions:** *Updates Part I.C. of the previous permit*. Authorized by VPDES Permit Regulation, 9 VAC 25-31-190.J.4 and 220.I. This condition is necessary when a maximum level of quantification and/or a specific analytical method is required in order to assess compliance with a permit limit or to compare effluent quality with a numeric criterion. The condition also establishes protocols for calculation of reported values.

Part I.D.1. **95% Capacity Reopener:** *Identical to Part I.D.1. of the previous permit*. Required by VPDES Permit Regulation, 9 VAC 25-31-200 B 4 for certain permits.

Part I.D.2 **Indirect Dischargers:** *New requirement.* Required by VPDES Permit Regulation, 9 VAC 25-31-200 B 1 for all STPs that receive waste from someone other than the owner of the treatment works.

Part I.D.3. **Materials Handling/Storage:** *Identical to Part I.D.2. of the previous permit***.** 9 VAC 25-31-280.B.2. requires that the types and quantities of "wastes, fluids, or pollutants which are … treated, stored, etc." be addressed for all permitted facilities.

Part I.D.4. **O&M Manual Requirement:** *Updates Part I.D.3. of the previous permit.* Required by Code of Virginia 62.1-44.19, SCAT Regulations 9 VAC 25-790, and VPDES Permit Regulation 9 VAC 25-31-190 E for all STPs. Added requirement to describe procedures for documenting compliance with the permit requirement that there shall be no discharge of floating solids or visible foam in other than trace amounts.

Part I.D.5. **CTC/CTO Requirement:** *Updates Part I.D.4. of the previous permit.* Required by Code of Virginia 62.1-44.19, SCAT Regulations 9 VAC 25-790, and VPDES Permit Regulation 9 VAC 25-31-190 E for all STPs.

Part I.D.6. **SMP Requirement:** *Updates Part I.D.6. of the previous permit.* VPDES Permit Regulation 9 VAC 25-31-100 P, 220 B 2, and 420 through 720, and 40 CFR Part 503 require all treatment works treating domestic sewage to submit information on their sludge use and disposal practices and to meet specified standards for sludge use and disposal. Technical requirements are derived from the Virginia Pollution Abatement Permit Regulation (9 VAC 25-32-10 *et seq.*)

Part I.D.7. **Reliability Class:** *Identical to Part I.D.7. of the previous permit.* Required by SCAT Regulations 9 VAC 25-790.

Part I.D.8. **Treatment Works Closure Plan:** *Updates Part I.D.8. of the previous permit.* Required for all STPs per the State Water Control Law at 62.1-44.18.C. and 62.1-44.15:1.1., and the SCAT Regulations at 9 VAC 25-790-450.E.. and 9 VAC 25-790-120.E.3.

Part I.D.9. **Reopeners:**
a. *New Requirement:* Section 303(d) of the Clean Water Act requires that total maximum daily loads (TMDLs) be developed for streams listed as impaired. This special condition is to allow the permit to be reopened if necessary to bring it into compliance with any applicable TMDL approved for the receiving stream. The reopener recognizes that, according to section 402(o)(1) of the Clean Water Act, limits and/or conditions may be either more or less stringent than those contained in this permit. Specifically, they can be relaxed if they are the result of a TMDL, basin plan, or other wasteload allocation prepared under section 303 of the Act.
b. *Updates Part I.D.9. of the previous permit:* 9 VAC 25-31-390 A authorizes DEQ to modify VPDES permits to promulgate amended water quality standards.
c. *Updates Part I.D.5. of the previous permit:* Required by the VPDES Permit Regulation, 9 VAC 25-31-220.C, for all permits issued to STPs.

Part II **Conditions Applicable to All VPDES Permits:** *Updates Part II of previous permit.* VPDES Permit Regulation 9 VAC 25-31-190 requires all VPDES permits to contain or specifically cite the conditions listed. Part II,A.4. language added for Virginia Environmental Laboratory Accreditation Program (VELAP) per 1 VAC 30, Chapter 45: Certification for Noncommercial Environmental Laboratories, and 1 VAC 30, Chapter 46: Accreditation for Commercial Laboratories.